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NEW SPECIES AND VARIETIES OF NORTH AMERICAN LEPIDOPTERA.

BY WM. BARNES, S.B., M.D., AND J. MCDUNNOUGH, PH.D.,

DECATUR, ILL.

ARCTIIDÆ.

1. *Apantesis sociata*, new species.

Female.—Head and thorax deep black brown; anterior portion of thorax with red band partially hidden beneath collar; abdomen vermillion dorsally, with a confluent row of black dorsal spots, beneath blackish; primaries deep chocolate brown; at one half distance from base an ochreous dash extends from costa inwards to cubital vein, slightly angled inwardly on costa; this is followed towards apex by a small ochreous spot; fringes concolorous with wings. Secondaries vermillion, with broad irregular dark brown marginal border, extending to anal angle, and similar colored spot just beyond cell. Beneath, as above, rather paler.

Expanse, 34 mm.

Allied to *A. placentia* S. & A. but much smaller; the ochreous dash on median area of primaries and the broad marginal border of secondaries may serve to distinguish it from this species. It is probably merely a good geographical race.

Habitat.—Ft. Wingate, N. M. (June 16-23). 1 female. Type, Coll. Barnes.

2. *Opharus (Phæoptera) astur fumata*, new variety.

A long series of both sexes from Arizona differs from the type form in that both wings are much more suffused with smoky brown and the white bands of spots crossing primaries are considerably smaller, especially in median area. Typical *astur* does not probably extend north of Mexico. Our N. American race is sufficiently distinct to merit a name. Exp., male 42 mm.; female 50 mm.

Habitat.—Palmerlee, Ariz., Huachuca Mts., Ariz. (July 8-15). Type, Coll. Barnes.

3. *Hemihyalea splendens*, new name. Syn. *mansueta* Druce (*nec* H. Edw.).

The species figured by Druce as *mansueta* Edw. (Biol. Cent. Am. Het., Pl. 10, f. 1) and placed by Hampson as a subspecies of *labecula* Grt. proves, on examination of a good series, to be distinct.

The name *mansueta* being already employed in the genus for a form of *cornea* H. S. we would propose the above name for this species, and append following description:

Palpi dark gray beneath, black above; third joint almost entirely black, black lateral dot at base of second joint with a slight reddish shading, antennæ bipectinate in both sexes, brown; head and thorax dark gray, especially noticeable in female; patagia with black dot and central stripe, bordered inwardly with white; abdomen pink, last segment sometimes with black patch, beneath gray, with a double lateral black stripe; tibiæ and tarsi gray ringed with black; anterior femur more or less pinkish. Primaries hyaline, more or less sprinkled with black and various shades of gray; five black patches on costa with gray interspaces indicate the usual bands, of which the subbasal one alone is continued nearly across wing; basal portion of inner margin gray, followed by two black patches separated by gray, in female more or less confluent; discocellulars and basal portion of vein M_2 , as well as cubitus at origin of Cu_2 , black; veins in subterminal area tinged with black; outer margin dark brown, shaded inwardly with light gray and containing some diffuse black marks; fringes smoky, checkered with gray at extremities of veins, most prominently at anal angle. Secondaries hyaline, smoky gray, with slight discal dot and dark outer margin towards apex. Beneath as above, more hyaline, markings less distinct; costal border of secondaries gray, terminated by black.

Expanse, male 53 mm.; female 60 mm.

Habitat.—Palmerlee, Ariz. 4 males, 4 females. Type, Coll. Barnes.

NOCTUIDÆ.

4. *Euxoa pimensis*, new species.

Male.—Antennæ fasciculate, palpi light ochreous clothed with black hairs on second joint; front slightly tuberculate, gray, edged posteriorly with black; collar, thorax and patagia gray, former with an indistinct darker band of brownish; primaries gray with a slight purplish tinge; subbasal line geminate, edged prominently with black on costa, then rather indistinct; t.a. line geminate, forming a prominent angle on costa, the apex of which touches the orbicular, then slightly angled inwardly below cubitus and oblique to inner margin at one third distance from base; orbicular large, almost circular, partially defined by black, reniform indistinct, with black margin on basal side, both spots concolorous with wing, claviform absent, t.p. line geminate, dentate, from a point on costa above reniform strongly outcurved to well beyond same, then gently curving to inner margin two thirds from base; subterminal line indistinct, defined by some pale scaling, edged outwardly with smoky; terminal line brownish, fringes smoky, lighter at base. Secondaries pure white, somewhat hyaline. Beneath, primaries whitish, shaded with buff, with prominent black spot on costa, one third from apex; secondaries as above.

Expanse, 37 mm.

This species is allied to *termessus* Sm. and *nævulus* Sm., differs however in the much lighter ground color and the angled t.a. line, as well as other minor points of detail. It may be distinguished from *itodes* Sm. by the larger orbicular and the lack of dark centre to the reniform.

Habitat.—Babaquivera Mts., Pima Co., Ariz. 1 male. Type, Coll. Barnes.

5. *Polia purpurea*, new species.

Male.—Antennæ strongly fasciculate, palpi covered with long gray hairs; front and collar dark gray, crossed by an indistinct double black bar; thorax and patagia lighter, sprinkled with brownish in anterior portion; abdomen brown; primaries of a dark purplish-gray, suffused with lighter in median and subterminal areas; slight black basal dash with traces of light gray shading between it and costa; subbasal line not visible; t.a. line only visible as a black geminate lunule on inner margin about two fifths from base; orbicular large, circular, light gray with darker central shading, very strongly edged with black towards base of wing, less so on outer side and on base, open more or less towards costa, which at this point is same shade of color as orbicular; claviform prominent, distinctly outlined in black, filled with dark reddish purple; reniform large, outlined very heavily with black on base and inner margin, open towards apex of wing, lower portion dark purple, upper portion light gray, shaded with reddish and containing an indistinct dark lunule; reddish shade extending outwardly beyond reniform to t.p. line, defined sharply towards anal angle by black shade; median area between orbicular and reniform dark purple, remainder light purplish gray, extending outwardly to subterminal line in lower portion of wing; t.p. line very indistinct, geminate, lunulate, preceded in lower portion by slight dark shade; costal portion of subterminal area dark, remainder light purplish gray, veins marked with black; subterminal line slightly incurved between costa and vein R_5 , straight to M_3 , rather nearer outer margin to Cu_1 , thence gently incurved to anal angle; with the exception of costal portion, which is indistinct, shaded inwardly with dark blackish brown; terminal area sprinkled with gray at apex and along outer margin; terminal row of small black lunules; fringes smoky, slightly sprinkled with gray. Secondaries smoky, veins darker. Beneath, primaries smoky, shaded with gray along costa and outer margin; traces of dark markings on costa near apex; secondaries whitish, sprinkled with dark brown, with prominent discal spot and median line formed of dashes on the veins, fringes white.

Expanse, 38 mm.

Habitat.—Palmerlee, Ariz. 1 male. Type, Coll. Barnes.

This species is allied to *subjuncta* G. & R., lacks however the black dash of submedian fold and the prominent t.p. line of this latter species.

6. *Polia tristis*, new species.

Male.—Antennæ fasciculate; head and thorax black-brown, sprinkled with white scales, collar tipped with white and with black transverse band, patagia edged with white; primaries, deep purplish gray, shaded in median area with brown; black basal dash, edged on costal side with ochreous; subbasal line indistinct, strongly outcurved below costa, thence with sharp angle to end of basal dash; t.a. line only visible near inner margin as two black lunules, edged with white inwardly, the upper one much the larger, closely approached to the t.p. line and connected with it by black dash, the area above this dash being distinctly brown; orbicular oblique, oblong, gray, imperfectly edged with black and preceded by some gray scaling on costa; reniform large, strongly hollowed out towards apex of wing, gray, shaded with darker and outlined inwardly with black; between reniform and t.p. line is a distinct brown area; t.p. line indistinct in costal half, angled sharply inwardly near inner margin at a point connected with t.a. line by black dash; subterminal line angled below costa, preceded opposite reniform by patch of gray and black scaling, indistinct in lower portion; anal angle filled with gray and yellow scaling, defined towards costa by black dash; fringes light, checkered with darker. Secondaries smoky gray, with broad dark outer margin. Beneath, primaries, smoky, shaded with gray, with indistinct discal dot and median band; secondaries whitish, sprinkled with dark brown along costa and inner margin, with discal dot and median band more prominent than on primaries.

Expanse, 31 mm.

This species superficially resembles the preceding, differs however in the details of maculation, and may be distinguished readily by the cross-bar between t.a. and t.p. lines, and the lack of the prominent subterminal line of *purpurea*.

Habitat.—Palmerlee, Ariz. Type 1 male. Coll. Barnes.

7. *Cirphis dissimilis*, new species.

Female.—Ground color of body and primaries deep purple brown; maculation very indistinct; orbicular small, circular, filled with yellowish brown; reniform similar in color, not well defined; t.a. line almost obsolete, traces of it discernible as a sharp yellow-brown tooth below cubitus; t.p. line very faint, curved, formed of a series of yellow-brown lunules; subterminal line represented by a few darkish spots edged outwardly with yellowish; on costa near apex two or three white spots; a terminal row of minute yellow dots at extremity of veins; fringes concolorous with wings. Secondaries dusky, semi-hyaline towards base and inner angle. Beneath, primaries smoky, shaded with purple-brown along costa and outer margin and slightly sprinkled with ochreous; spots on costa and extremity of veins as above; secondaries, lighter than above; hyaline area more extended, prominent discal spot present.

Expanse, 41 mm.

The genus *Cirphis* Wlk. has been made by Hampson to include most of the species at present placed under *Leucania*. Although the outward appearance of our species does not show much resemblance to the known North American forms, it agrees closely in structure. It would appear to possess most affinity to *Leucania lutina* Sm. as far as we can judge by the description.

Habitat.—Chiricahua Mts., Ariz. 1 female. Type, Coll. Barnes.

8. *Morrisonia albidior*, new species.

Female.—Palpi whitish, with sparse black hairs on outer side; front ochreous, transversely banded below antennæ with dark brown; collar, thorax and patagia whitish, edged with light brown, collar crossed by a band composed of black dots; metathorax with tuft of dark black scales. Primaries, ground color creamy, only prominent at base of wing and along costal margin; on the inner margin this creamy color is entirely obscured by dark purplish brown, which on the discal portion of wing assumes the form of longitudinal striations; the terminal area is shaded with grayish purple. None of the ordinary lines are distinct; the subbasal is entirely lacking and the t.a. line is only defined by a dark spot on costa and several indistinct dark brown markings near inner margin about one third of the distance from base; the position of the orbicular is given by a single dark point, above which on costa is a slight brownish shade; the reniform is small, s-shaped, and composed of black scales with a whitish central portion; a few dark dashes on veins near inner margin mark the position of the t.p. line; in the outer one half of wing along costa is a series of five or six black spots; from a point just below apex a prominent dark brown shade extends inward, gradually curving to a point on inner margin slightly basad of anal angle; in the central portion this shade is edged outwardly with whitish and the portion of the wing exterior to it is tinged with grayish purple; fringes dark brown, checkered with ocher. Secondaries smoky, with discal spot of underside showing through, fringes slightly lighter. Beneath, primaries ground color as above, shaded with smoky; on costa three fourths from base a black transverse dash; between which and apex a more intense ochreous color prevails; traces of the oblique subapical dash and of the reniform are visible, fringes as above, preceded by a terminal row of black spots; secondaries semihyaline with prominent discal spot, costal area creamy, sprinkled with black; in outer third a faint line, parallel to outer margin and more heavily marked on veins; a terminal row of black dots, not reaching inner angle.

Expanse, 28 mm.

Habitat.—Redington, Ariz. 3 females. Types, Coll. Barnes.

9. *Trachea (Hadena) probata*, new species.

Female.—Palpi ochreous, shaded with fuscous; head and thorax purplish brown, sprinkled with buff; primaries, ground color purple-brown, shaded

with ochreous, maculation very indistinct, subbasal and t.a. line not traceable, a few ochreous markings occupying their presumable position; some black markings in central portion of median area; orbicular small, open towards costa, otherwise heavily outlined in black, reniform large, filled with ochreous, and with black margin towards base of wing, below it slight black dash; t.p. line indistinct, well outcurved below costa, then proceeding close to reniform in a gentle curve to inner margin, shaded outwardly with ochreous; three buff dots on costa in subterminal area and several indistinct dots on veins forming a row parallel to t.p. line; subterminal line most prominent of all lines, inwardly dentate, irregular, shaded on basal side with black and outwardly with pale ochreous; terminal space lighter than remainder of wing; terminal row of black lunules; fringes dusky with ochreous basal line. Secondaries smoky, lighter towards base. Beneath, light buff sprinkled with purple brown; costa of primaries with dark patch beyond middle, followed by lighter markings; secondaries with indistinct discal dot and median band.

Expanse, 40 mm.

Habitat.—Huachuca Mts., Ariz. 1 female. Type, Coll. Barnes.

The species is allied to *H. ethnica* Sm.; can be separated however by the prominent ochreous reniform.

10. *Perigea contrasta*, new species.

Female.—Palpi, collar, thorax and patagia deep brown sprinkled with lighter, front and base of antennæ ochreous; primaries deep brown, slightly irrorate with lighter, the whole median area with the exception of a costal patch of brown being milky white; a white subbasal line extends half across wing edged with black interiorly on costal portion; between this and the t.a. line the ground color is darker, containing near costa a few white scales; t.a. line geminate, filled with white, composed below orbicular of two prominent outcurved lunules; t.p. line geminate, strongly outcurved and dentate from costa to below reniform, thence composed of large incurved lunules to a point on inner margin two thirds from base; orbicular circular, white with black center, irregularly outlined with black; reniform very large, contracted in middle, giving the appearance of a figure eight, white, scaled with black in center and outlined with same color; claviform outlined in black on the white median ground color; from its outer extremity a thin black line extends to inner margin; the space between orbicular and reniform, extending from costa downwards to near base of latter spot, brown, the remainder of the median area being milky white; outside this area on costa three white spots; subterminal line wavy, vague, arising from darkish patch on costa; a series of small terminal dark lunules, with slight traces of white intershading; fringes dark, streaked with lighter brown opposite extremities of veins; secondaries ochreous at base with a broad smoky brown margin, a large discal dash and a sinuous median line most marked towards the anal angle; fringes dark preceded by a terminal blackish line; underneath, primaries brown sprinkled with ochreous along costa and outer margin; inner margin entirely

ochreous; the three white dashes of upperside on costa near apex repeated; just basad of first an indistinct blackish band crosses wing; a discal lunule is also present; secondaries ochreous sprinkled with brown except at base, median dentate brown line and round discal spot more prominent than on upperside; fringes of both wings light, on primaries edged with darker brown.

Expanse, 34 mm.

This species, easily recognizable by the broad white central area, seems best placed, according to Hampson's tables, in the genus *Perigea*, although the palpi are shorter than in most of the other members of the genus. The abdomen is unfortunately rubbed in the specimen before us, so we are unable to state whether it is tufted or not.

Habitat.—Redington, Ariz. 1 female. Type, Coll. Barnes.

11. *Oligia (Hadena) fractilinea albescens*, new variety.

Distinguished from the typical form by the greater extent of the light buff-colored area of primaries, leaving only some slight dark shading along costa and a narrow irregular border along outer margin; reddish tinge on wing much less prominent; reniform centered with white; other markings obsolete; secondaries much paler in color in both sexes, light buff.

Habitat.—Vineyard, Ut., Provo, Ut. (15–24 Aug.). Described from 2 males and 5 females. Type, Coll. Barnes.

This is probably the western race of this species.

12. *Cerma albipuncta*, new species.

Palpi dark blackish brown edged inwardly with lighter; front ochreous; collar, thorax and patagia dark brown sprinkled with gray; primaries, ground color deep sepia brown, more or less sprinkled with gray and slightly olivaceous scales; t.a. line at about one fourth the distance from base, rather dentate, very slightly outcurved, black, edged with lighter shades, especially on costal portion; orbicular very small, circular, edged with black and filled with scales of a more or less pronounced olivaceous tint; reniform prominent, white, with slight black scaling in central portion, and preceded by a dark shade; t.p. line single, black, dentate, strongly outcurved just below costa, thence slightly oblique to a point on inner margin two thirds from base, edged outwardly with grayish; subterminal line irregularly dentate, preceded, especially towards anal angle, by black arrow-like dashes; terminal space lighter than remainder of wing, shaded with gray and olivaceous and terminated by a row of black dashes; fringes basally dark gray, outer portion somewhat lighter. Secondaries dark smoky gray, lighter towards base, with slightly dentate median line and small discal spot; along outer margin to anal angle a terminal row of dark dashes; fringes smoky. Beneath, primaries smoky, sprinkled on costa and outer margin with ochreous, with dark median band, slightly angled at costa,

the angle being filled with ochreous scaling; secondaries as above, but considerably lighter, especially at base.

Expanse, 25 mm.

This species shows considerable affinity to *Cerma marina* Sm. and *Hadena Smaragdina* Neum., lacks however the green markings, and possesses in the male bipectinate antennæ. The above description is from a strongly marked specimen; in other specimens before us the maculation is much more indistinct and the primaries present a general dark suffused appearance; the white reniform is however always prominent.

Habitat.—San Diego, Calif. (Oct. 8–15). 6 males, 1 female. Types, Coll. Barnes.

13. *Oxycnemis grandimacula*, new species.

Male.—Palpi, collar, thorax and patagia gray sprinkled with black; front ochreous; collar crossed by a faint transverse black band; primaries dark smoky gray, sprinkled with lighter; a short black dash extends from base along radius; t.a. line single, black, slightly outcurved; t.p. line black, faint, especially in costal portion, gently curved around reniform, lower portion towards inner margin shaded prominently with white on exterior side; all spots very prominent; orbicular oval, filled with light ochreous and defined in black; reniform slightly larger, similar in color, open towards costa; from lower exterior portion a black dash extends to outer margin; a similar black dash, parallel to the first, crosses t.p. line at the upper extremity of white shade, following the course of vein Cu_2 ; from the point of intersection a black dash extends backward to upper portion of claviform; this spot is very large, resting basally on t.a. line, and outlined in black, the lower boundary line extending back to base of wing; the whole space to the base is filled with ochreous scales; extremities of veins marked with black; terminal row of black dots. Secondaries white, marked with gray on costa and at extremities of veins. Beneath whitish, sprinkled with gray on costa, apex, inner margin of primaries, and slightly so on costa of secondaries.

Expanse, 28 mm.

This species is related to *subsimpler* Dyar, lacks however the white apical dash and presents numerous other points of difference in maculation. The structure is essentially that of *Oxycnemis*.

Habitat.—Redington, Ariz. 1 male. Type, Coll. Barnes.

14. *Viridemas minuta*, new species.

Male.—Palpi minute, eyes very large, round, naked, front smooth, antennæ fasciculate. Collar and thorax whitish, shaded with brown, patagia slightly yellowish; posterior thoracic tuft largely brown. Primaries, basal por-

tion light sap green, bordered outwardly by t.a. line, which is black, single, and slightly outcurved in central portion; a black subbasal line is present, proceeding obliquely outward to below cubitus, thence sharply angled to base of wing; a slight dark brown shade in central portion of green area; orbicular small, circular, outlined in black; reniform with dark shade in upper portion and black margin; claviform a black dagger-shaped mark resting on t.a. line, median area grayish white, shaded slightly with smoky towards inner margin; t.p. line black, strongly bent around reniform, touching it at lower extremity; incurved until opposite claviform, thence almost straight; subterminal and terminal areas grayish white shaded with green; prominent black patch on costa before apex; subterminal line only present as a slight irregular dark shade; terminal black line; fringes, grayish white. Secondaries smoky, somewhat lighter towards base, fringe white. Beneath, primaries dark with white fringes; secondaries white, sprinkled along costa and outer margin with smoky brown, and with broad dark discal patch.

Expanse, 19 mm.

This species seems to fit very well into the above genus, although we hardly agree with Dr. Smith as to the position this genus should occupy. In the original description (Ann. N. Y. Acad. Sci., XVII, pt. II, p. 91) it is placed at the very beginning of the Noctuidæ, among genera characterized by hairy eyes and prominent vein 5 on secondaries, most of which will probably be placed by Hampson in his new subfamily Mominæ. We should feel inclined to place the genus far down in Hampson's subfamily Acronyctinæ, characterized by naked, non-ciliate eyes and obsolescent vein 5 of secondaries.

Habitat.—Kerrville, Tex. 1 male. Type, Coll. Barnes.

15. *Antaplagia grisescens*, new species.

Female.—Head, thorax and abdomen creamy, slightly shaded with yellow on collar; ground color of primaries smoky brown, thickly covered with very pale olivaceous scaling, leaving very little trace of ground color, except at apex and along inner margin; scaling thickest along basal half of costa; secondaries light smoky brown. Beneath, primaries fuscous; secondaries, pale buff, without markings.

Expanse, 21 mm.

This species belongs in the *thoracica* group; the specimen before us lacks its fringes, but is otherwise fairly fresh.

Habitat.—Deming, N. Mex. (Sept. 1-7). 1 female. Type, Coll. Barnes.

16. *Nocloa dissimilis*, new species.

Head and thorax olivaceous brown; abdomen light gray; primaries light olivaceous brown, shaded with darker, presenting a distinct velvety appearance;

subbasal line represented by a black dash on costa; t.a. line single, black, angled below costa, then very slightly oblique, and strongly outcurved below submedian fold, lower portion edged inwardly with white and followed in median area by a white shade; orbicular and reniform indistinct, outlined in white, former small with dark center, latter constricted in middle, lower portion filled with dark scales, upper portion with yellowish central bar; median area usually shaded considerably with blackish, sometimes confined to the lower outer portion; t.p. line well outcurved below costa, perpendicular opposite reniform, then inwardly oblique to inner margin, slightly irregular, single, black, edged with ochreous outwardly and followed in subterminal area by a diffuse light olive shade with a distinct bronze tinge; subterminal line diffuse, irregular, close to termen in central portion, incurved at anal angle, preceded usually by a dark shade; terminal row of black lunules; fringes dusky, with basal yellow line. Secondaries smoky, lighter towards base, with black median curved line and terminal row of lunules. Beneath, primaries smoky gray, with black median line and several ochreous spots on costa near apex; secondaries light buff, sprinkled with darker and with prominent median line.

Expanse, 31-34 mm.

Habitat.—Redington, Ariz. 6 males, 3 females. Type, Coll. Barnes.

This species resembles an *Hadena* at first sight, rather than a *Nocloa*, agrees however in structure with this latter genus, possessing a reduced proboscis, and cup-like frontal process with central tubercle, as well as naked antennæ in both sexes.

17. *Azenia pulchra*, new species.

Male.—Palpi, front, collar and thorax pale ochreous, slightly tinged with darker yellow; primaries yellow with a decided olivaceous tinge, base and costal margin lighter and more ochreous; t.a. line barely visible as a slightly darker shade, strongly outcurved below costa, thence directed obliquely inwardly to a point on inner margin less than one third distance from base; the orbicular is represented by a dark brown dot; the reniform is indistinctly outlined with darker scales, small, oval; t.p. line brown, sharply angled below costa, thence oblique and slightly dentate to inner margin two thirds from base; at its origin on costa a small dusky patch; it is also slightly shaded externally with pale yellow; apex of wing with small dark patch, followed along the outer margin by a narrow yellow border, much lighter than the remainder of the subterminal area; extremity of veins slightly dotted with brown, fringes purplish brown. Secondaries creamy, strongly suffused with smoky brown along costa and outer margin. Beneath, primaries smoky, ochreous along costa and inner margin; secondaries uniform cream colored.

Expanse, 22 mm.

This species possesses the reduced proboscis, the trilobate corne-

ous process, and the thoracic vestiture characteristic of the genus *Azenia* Grt. differs from it however in that veins 3 and 4 of secondaries are prominently stalked beyond cell and not from a point at its apex. In this respect it seems to approach nearer to *Acontia*; vein 5 of secondaries is however obsolescent from below middle of cell, so we prefer to place it for the present in *Azenia* Grt.

Habitat.—Kerrville, Texas. 1 male. Type, Coll. Barnes.

Euaontia, new genus. (Type *E. semirufa*.)

Palpi upturned, prominent, reaching to a point just beyond frontal process, which is conical and drawn out into two points, placed vertically to each other; tibiae without spines or spurs; vestiture of thorax largely scaly, intermingled with a few hairs; antennae of male ciliate; primaries broadly triangular, with areole, formed by junction of veins R_2 and R_3 , R_4 and R_5 stalked with R_3 , M_1 from below areole, M_2 , M_3 and Cu_1 slightly separated, from around angle of cell.

The position of vein M_2 on secondaries would place this genus, according to Hampson, in the Acontiinae; it is easily separated from all allied genera by the conical process with vertically placed apices.

18. Euaontia semirufa, new species.

Male.—Palpi whitish, more or less scaled with dusky and with slightly black tips; front, thorax and patagia white; primaries, basal half white, sparsely sprinkled with fine black dots; on costa a slight dark shade at base, followed by a more prominent blackish mark at one fourth the distance from base; the white basal portion of wing is sharply defined by a dark brown oblique line extending from middle of costa to a point on inner margin about two thirds from base; this line is slightly angled just above cubitus and is followed by a diffuse smoky shade; remainder of wing salmon pink; reniform represented by some whitish scales edged with black just exterior to angle of transverse brown line; subterminal line irregular, composed of grayish white scales, followed by a terminal row of spots, similar in color, and shaded outwardly with dusky brown; towards apex of wing these spots coalesce with subterminal band; fringes ochreous. Secondaries white, broadly shaded with smoky along outer margin, with a series of terminal dark spots; fringes white. Beneath, primaries ochreous, especially towards apex, crossed by a broad suffused smoky band, narrower on costa; secondaries creamy with small discal dot.

Expanse, 24 mm.

Habitat.—Esmeralda Co., Nevada. 1 male. Type, Coll. Barnes.

This species differs markedly from any of the group known to us; the contrast between the white basal portion and salmon colored outer half renders it readily recognizable.

THYATIRIDÆ.

19. *Bombycia fasciata*, new species.

Collar and prothorax ruddy brown; patagia crested, gray, edged with dark brown; posterior portion of thorax gray; abdomen smoky brown; base of legs clothed with rosy hairs, primaries, ground color light purple brown, suffused at base and terminal portion of wing with light whitish green and crossed by a broad median band of same color; the basal green portion of wing is bordered by an indistinct, geminate, outwardly oblique, subbasal line, angled inwardly on submedian fold and filled with light green; at a short distance beyond a geminate t.a. line filled with ruddy brown runs parallel to subbasal line, outer line of the two being broadly black; median area with small round black spot in cell and a wavy black median shade exterior to spot; t.p. line geminate, almost perpendicular, slightly outcurved opposite cell, incurved on submedian fold; inner line deep black, space between ruddy brown; at a point beyond t.p. line equal to distance between subbasal and t.a. lines a perpendicular, lunulate, pale green line, the area beyond this being almost entirely whitish green; below apex of wing a slight black curved line, continued indistinctly as a greenish shade edged with dusky to anal angle, often entirely absent; terminal black line slightly lunulate; fringes rosy gray. Secondaries dark smoky gray, lighter along outer margin, with traces of black subbasal line and lighter median band. Beneath smoky, banded with lighter, costa, apex of wing and fringes rosy; small discal spot on secondaries.

Expanse, 37.5 mm.

Habitat.—Duncans, Vanc. Is. (Oct. 1-7). 2 males, 9 females.
Type, Coll. Barnes.

This species, which is very constant in markings in all specimens before us, we consider distinct from both *improvisa* H. Edw. and *tearlei* Edw. The latter species can at once be separated by its dull gray color and lack of contrasting markings; the median area is scarcely lighter than the remainder of wing and there is no green whatever present; Dyar is evidently in error in making it synonymous with *improvisa* Edw. The green basal area of *improvisa* is more limited than in *fasciata* and of a decided apple green shade; the broad suffusion of greenish in outer portion of wing bordered inwardly by geminate line is almost lacking in *improvisa*, being confined to an apical patch continued as a waved line; the course of the t.a. line also differs in the two species; in *improvisa* it is strongly oblique below costa and well angled inwardly on submedian fold; in *fasciata* it is much less oblique and the angle is not prominent; this latter distinction holds good in 6 specimens of *improvisa* and 11 of *fasciata* compared by us.

20. *Bombycia simicircularis* griseor, new variety.

Female.—Patagia dark, not light gray as in the type forms; primaries more suffused with smoky gray, lines indistinct; white basal patch and apical shade rendered less prominent by dark scaling, former almost obsolete. Secondaries dark buff, with broad marginal border of smoky gray.

Expanse, 40 mm.

Habitat.—Verdi, Nev. (May). 1 female. Type, Coll. Barnes.

This distinct form is probably the southern race of *semicircularis* Grt. We might add that *Cymatophora tema* Stkr. is a synonym of *semicircularis* Grt.; we have compared a specimen with both types and find them identical.

COCHLIDIIDÆ.

21. *Euclea flava*, new species.

Female.—General ground-color of body and wings ochreous yellow; primaries slightly darker in central portion; in basal half of wing an irregular thin white line extending from cubitus inwardly to near inner margin, sharply angled at point of origin and followed by a darkish yellow shade; near the apex of wing a straight white dash extending from costa to vein M_1 ; fringes slightly darker than other portions of wing; secondaries uniform light yellow-ocher; beneath light ocher with costa and outer margin somewhat deeper yellow.

Expanse, 24.5 mm.

This species is most nearly related to *E. dolliana* Dyar, but is at once recognized by its light color and the faintness of the white markings. In outward appearance it greatly resembles *Adoneta v. leucosigma* Pack. but differs in venation, possessing all 12 veins.

Habitat.—Babaquivera Mts., Arizona. 1 female. Type, Coll. Barnes.

22. *Natada nigripuncta*, new species.

Male.—Collar reddish ochreous, thorax somewhat lighter, abdomen purplish brown; antennæ and coxæ with white patches at base; primaries silky, light purplish brown at base, much lighter, more ochreous, along costa towards apex; slightly sprinkled with minute black dots and with a black patch just beyond origin of veins 3-5; hind wings uniform purplish brown. Beneath, primaries light brown, whitish along inner margin; secondaries ochreous speckled with black dots.

Expanse, 25 mm.

This species agrees in venation with a specimen of *Sisyrosea textula* Grt. examined by us, having on primaries veins R_2 , R_3 and R

on long stalk and vein R_5 slightly stalked from just above cell; it possesses however both pairs of spurs on posterior tibiae and would belong, according to Dyar (Proc. U. S. Nat. Mus., 29, 359), in the genus *Natada*. It seems closely related to *N. dognini* Dyar, a species from Columbia.

Habitat.—Prescott, Ariz. 1 male. Type, Coll. Barnes.

PYROMORPHIDÆ.

23. *Triprocris cyanea*, new species.

Entire insect deep metallic blue or green on both sides. Antennæ of male strongly bipectinate, of female slightly so. Length of body 8 mm.

Expanse of wings, 23–25 mm.

This species agrees with *smithsonianus* Clem., the type of the genus *Triprocris*, in lacking vein R_4 of primaries, differs from it however in having veins R_2 and R_3 stalked and not separate. As it possesses the short, untufted abdomen characteristic of the genus we place it here. It is not *lustrans* Beut., as Mr. Beutenmüller has kindly compared it with his type and tells us it is a much smaller insect in every way.

Habitat.—Santa Catalina Mts., Babaquivera Mts., Ariz. (July).

Described from 8 males, 6 females. Types, Coll. Barnes.

24. *Harrisina brillians*, new species.

Entire insect dark metallic blue, often shading into green; abdomen of male tufted laterally and posteriorly; antennæ in both sexes bipectinate. Length of body, 11 mm.

Expanse, 29 mm.

This is the species described by Dyar (Proc. Ent. Soc. Wash., 1901/2, p. 327) under the name of *coracina* Clem. The true *coracina*, however, of which we possess 7 specimens from the type locality, Texas, has no trace of metallic lustre, being simply pure black, just as Clemens stated. *Gingla marteni* Frch. which Dyar is inclined to consider synonymous with *coracina* is entirely different, being broader and shorter winged and possessing a venation approaching that of *Triprocris* but with all veins present on fore-wing. In our species, as in the generic type, *americana*, veins R_2 , R_3 and R_4 of fore-wing are stalked.

Habitat.—Palmerlee, Redington, Yuma, Ariz. (July); Colo. (Bruce)? 7 males, 6 females. Types, Coll. Barnes.